

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Sev K. H. Keil et al.	Art Unit	: 3688
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Title	: SYSTEM TO PROVIDE CONSUMER PREFERENCE INFORMATION		

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I. (Previously presented) A computer-implemented method for calculating adjusted preference information, comprising:

storing, for a plurality of consumers, preference information related to different attributes of a type of product, the stored preference information for an individual consumer including numerical values that are reflective of the individual consumer's preference for different attribute levels for the attributes of the type of product, and the plurality of consumers including a first consumer, a second consumer, and other consumers;

dividing the plurality of consumers into multiple different sub-groups that include less than all of the plurality of consumers;

based on the preference information stored for the first consumer, generating a first set of trade-off questions for the first consumer that solicit answers from the first consumer regarding choices between different attribute levels for attributes of the type of product;

providing the first set of trade-off questions to the first consumer;

predicting the first consumer's answers to the first set of trade-off questions;

receiving answers to the first set of trade-off questions from the first consumer;

selecting, from among the multiple sub-groups of consumers, a first sub-group of consumers as a match for the first consumer, the selection of the first sub-group of consumers being based on preference information for the first user and preference information for constituent members of the first sub-group of consumers;

for at least one attribute level of a particular attribute of the type of product, calculating an average value of the first sub-group's preference for the at least one attribute level based on

the stored values that are reflective of the first sub-group's constituent members' preferences for the at least one attribute level;

based on the first consumer's received answers to the first set of trade-off questions and the predicted answers to the first set of trade-off questions for the first consumer, determining a first adjustment factor for use in adjusting the stored value that is reflective of the first consumer's preference for the at least one attribute level;

adjusting the stored value that is reflective of the first consumer's preference for the at least one attribute level as a function of the determined first adjustment factor and the average value of the first sub-group's preference for the at least one attribute level;

based on the preference information stored for the second consumer, generating a second set of trade-off questions for the second consumer that solicit answers from the second consumer regarding choices between different attribute levels for attributes of the type of product;

providing the second set of trade-off questions to the second consumer;

predicting the second consumer's answers to the second set of trade-off questions;

receiving answers to the second set of trade-off questions from the second consumer;

selecting, from among the multiple sub-groups of consumers, a second sub-group of consumers as a match for the second consumer, the selection of the second sub-group of consumers being based on preference information for the second user and preference information for constituent members of the second sub-group of consumers;

for the at least one attribute level, calculating an average value of the second sub-group's preference for the at least one attribute level based on the stored values that are reflective of the second sub-group's constituent members' preferences for the at least one attribute level;

based on the second consumer's received answers to the second set of trade-off questions and the predicted answers to the second set of trade-off questions for the second consumer, determining a second adjustment factor for use in adjusting the stored value that is reflective of the second consumer's preference for the at least one attribute level, wherein the first adjustment factor; and

adjusting the stored value that is reflective of the second consumer's preference for the at least one attribute level as a function of the determined second adjustment factor and the average value of the second sub-group's preference for the at least one attribute level.

2. (Previously presented) A method according to Claim 1, wherein the preference information for the plurality of consumers includes normalized part worth values.

3. (Previously presented) A method according to Claim 2, wherein the preference for the plurality of consumers includes currency-normalized part worth values.

4. (Previously presented) A method according to Claim 1, further wherein selecting the first sub-group of consumers includes selecting the first sub-group of consumers based on attribute levels identified as unacceptable by constituent members of the first sub-group of consumers.

5. (Previously presented) A method according to Claim 4, wherein the constituent members of the first sub-group of consumers identified similar attribute levels as unacceptable.

6. (Previously presented) A method according to Claim 1, wherein selecting the first sub-group of consumers includes selecting the first sub-group of consumers based on part worth values stored for constituent members of the first sub-group of consumers.

7. (Previously presented) A method according to Claim 6, wherein the constituent members of the first sub-group of consumers are associated with similar preference information.

8. (Canceled)

9. (Previously presented) A method according to Claim 1, wherein dividing the plurality of consumers into sub-groups includes assigning consumers to sub-groups based on attribute levels that the consumers indicated as unacceptable.

10. (Previously presented) A method according to Claim 1 wherein dividing the plurality of consumers into sub-groups includes assigning consumers to sub-groups based on part worth values associated with the consumers.

11-12. (Canceled)

13. (Original) A method according to Claim 1, further comprising: determining an offer to sell a product based on the mixed preference information.

14. (Original) A method according to Claim 13, further comprising:
providing the offer to the consumer.

15. (Previously presented) A method according to Claim 1, wherein the first sub-group of consumers is identical to the second sub-group of consumers.

16. (Previously presented) A method according to Claim 1, wherein the first sub-group of consumers does not include any consumers belonging to the second sub-group of consumers.

17. (Previously presented) A method according to Claim 1, wherein one or more of the constituent members of the first sub-group of consumers are members of the second sub-group of consumers.

18. (Canceled)

19. (Original) A method according to Claim 1, wherein the plurality of consumers comprises a predetermined number of past consumers for whom preference information is stored.

20. (Original) A method according to Claim 19, wherein the predetermined number of past consumers are determined based on a time at which preference information associated with each of the predetermined number of consumers was collected.

21. (Original) A method according to Claim 1, wherein the plurality of consumers comprises all past consumers for whom preference information was collected during a particular time period.

22. (Previously presented) A computer-implemented method for calculating adjusted preference information, comprising:

storing, for a plurality of consumers, preference information related to different attributes of a type of product, the stored preference information for an individual consumer including numerical values that are reflective of the individual consumer's preference for different attribute levels for the attributes of the type of product, and the plurality of consumers including a particular consumer and other consumers;

dividing the plurality of consumers into multiple different sub-groups that include less than all of the plurality of consumers;

based on the preference information stored for the particular consumer, generating a set of trade-off questions for the particular consumer that solicit answers from the particular consumer regarding choices between different attribute levels for attributes of the type of product;

providing the set of trade-off questions to the particular consumer;

predicting the particular consumer's answers to the set of trade-off questions;

receiving answers to the set of trade-off questions from the particular consumer;

selecting, from among the multiple sub-groups of consumers, a particular sub-group of consumers as a match for the particular consumer, the selection of the particular sub-group of consumers being based on preference information for the particular user and preference information for constituent members of the particular sub-group of consumers;

for at least one attribute level of a particular attribute of the type of product, calculating an average value of the particular sub-group's preference for the at least one attribute level based

on the stored values that are reflective of the particular sub-group's constituent members' preferences for the at least one attribute level;

based on the particular consumer's received answers to the set of trade-off questions and the predicted answers to the set of trade-off questions for the particular consumer, determining an adjustment factor for use in adjusting the stored value that is reflective of the particular consumer's preference for the at least one attribute level; and

adjusting the stored value that is reflective of the particular consumer's preference for the at least one attribute level as a function of the determined adjustment factor and the average value of the particular sub-group's preference for the at least one attribute level.

23-26. (Canceled)

27. (Previously presented) A method according to Claim 22, wherein selecting the particular sub-group of consumers includes selecting the particular sub-group of consumers based on attribute levels indicated as unacceptable by constituent members of the particular sub-group of consumers.

28. (Previously presented) A method according to Claim 27, wherein the constituent members of the particular sub-group of consumers identified similar attribute levels as unacceptable.

29. (Previously presented) A method according to Claim 22, wherein selecting the particular sub-group of consumers includes selecting the particular sub-group of consumers based on part worth values associated with each of the constituent members of the particular sub-group of consumers.

30. (Previously presented) A method according to Claim 29, wherein the constituent members of the particular sub-group of consumers are associated with similar part worth values.

31. (Previously presented) A computer-implemented method for calculating adjusted consumer preference information, comprising:

receiving, for a plurality of consumers, preference information related to different attributes of a product, the received preference information for an indication consumer including numerical values that are reflective of the individual consumer's preference for different attribute levels for the attributes of the type of product, and the plurality of consumers including a particular consumer and other consumers;

currency-normalizing the received preference information for the plurality of consumers;
storing the currency-normalized preference information for the plurality of consumers;
dividing the plurality of consumers into multiple different sub-groups that include less than all of the plurality of consumers;

based on the currency-normalized preference information stored for the particular consumer, generating a set of trade-off questions for the particular consumer that solicit answers from the particular consumer regarding choices between different attribute levels for attributes of the type of product;

providing the set of trade-off questions to the particular consumer;
predicting the particular consumer's answers to the set of trade-off questions;
receiving answers to the set of trade-off questions from the particular consumer;

selecting, from among the multiple sub-groups of consumers, a particular sub-group of consumers as a match for the particular consumer, the selection of the particular sub-group of consumers being based on currency-normalized preference information for the particular user and currency-normalized preference information for constituent members of the particular sub-group of consumers;

for at least one attribute level of a particular attribute of the type of product, calculating an average value of the particular sub-group's currency-normalized preference for the at least one attribute level based on the stored currency-normalized values that are reflective of the particular sub-group's constituent members' currency-normalized preferences for the at least one attribute level;

based on the particular consumer's received answers to the set of trade-off questions and the predicted answers to the set of trade-off questions for the particular consumer, determining

an adjustment factor for use in adjusting the currency-normalized stored value that is reflective of the particular consumer's currency-normalized preference for the at least one attribute level; and

adjusting the stored currency-normalized value that is reflective of the particular consumer's currency-normalized preference for the at least one attribute level as a function of the determined adjustment factor and the average value of the particular sub-group's currency-normalized preference for the at least one attribute level.

32. (Original) A method according to Claim 31, further comprising:
providing an offer based on the currency-normalized information.

33. (Original) A method according to Claim 32, further comprising:
providing the offer to the consumer.

34. (Withdrawn) A method, in a system to collect consumer preference information, for determining consumer trade-off questions based on a plurality of attribute levels, each of the plurality of attribute levels being associated with an attribute and a part worth utility value, the method comprising:

grouping the attribute levels into objects including two attribute levels, each of the two attribute levels of an object being associated with different attributes; and

grouping the objects into pairs including two objects, a first object of a pair including a first two attribute levels associated with two attributes and a second object of the pair including a second two attribute levels associated with the two attributes; and

selecting, from the pairs, a plurality of pairs on which to base trade-off questions, wherein a first pair is more likely to be selected than a second pair if a sum of part worth utility values associated with each attribute level of the first pair is greater than a sum of part worth utility values associated with each attribute level of the second pair.

35-39. (Canceled)

39. (Previously presented) A medium storing processor-executable process steps, the process steps comprising:

- a step to store, for a plurality of consumers, preference information related to different attributes of a type of product, the stored preference information for an individual consumer including numerical values that are reflective of the individual consumer's preference for different attribute levels for the attributes of the type of product, and the plurality of consumers including a first consumer, a second consumer, and other consumers;

- a step to divide the plurality of consumers into multiple different sub-groups that include less than all of the plurality of consumers;

- a step to generate, based on the preference information stored for the first consumer, a first set of trade-off questions for the first consumer that solicit answers from the first consumer regarding choices between different attribute levels for attributes of the type of product;

- a step to provide the first set of trade-off questions to the first consumer;

- a step to predict the first consumer's answers to the first set of trade-off questions;

- a step to receive answers to the first set of trade-off questions from the first consumer;

- a step to select, from among the multiple sub-groups of consumers, a first sub-group of consumers as a match for the first consumer, the selection of the first sub-group of consumers being based on preference information for the first user and preference information for constituent members of the first sub-group of consumers;

- a step to calculate, for at least one attribute level of a particular attribute of the type of product, an average value of the first sub-group's preference for the at least one attribute level based on the stored values that are reflective of the first sub-group's constituent members' preferences for the at least one attribute level;

- a step to determine, based on the first consumer's received answers to the first set of trade-off questions and the predicted answers to the first set of trade-off questions for the first consumer, a first adjustment factor for use in adjusting the stored value that is reflective of the first consumer's preference for the at least one attribute level;

- a step to adjust the stored value that is reflective of the first consumer's preference for the at least one attribute level as a function of the determined first adjustment factor and the average value of the first sub-group's preference for the at least one attribute level;

a step to provide the second set of trade-off questions to the second consumer;
a step to predict the second consumer's answers to the second set of trade-off questions;
receiving answers to the second set of trade-off questions from the second consumer;
a step to select, from among the multiple sub-groups of consumers, a second sub-group of consumers as a match for the second consumer, the selection of the second sub-group of consumers being based on preference information for the second user and preference information for constituent members of the second sub-group of consumers;

a step to calculate, for the at least one attribute level, an average value of the second sub-group's preference for the at least one attribute level based on the stored values that are reflective of the second sub-group's constituent members' preferences for the at least one attribute level;

a step to determine, based on the second consumer's received answers to the second set of trade-off questions and the predicted answers to the second set of trade-off questions for the second consumer, a second adjustment factor for use in adjusting the stored value that is reflective of the second consumer's preference for the at least one attribute level, wherein the second adjustment factor is different than the first adjustment factor; and

a step to adjust the stored value that is reflective of the second consumer's preference for the at least one attribute level as a function of the determined second adjustment factor and the average value of the second sub-group's preference for the at least one attribute level.

40. (Previously presented) A medium according to Claim 39, wherein the preference information for the plurality of consumers comprise normalized part worth values.

41. (Previously presented) A medium according to Claim 40, wherein the preference information for the plurality of consumers comprise currency-normalized part worth values.

42. (Previously presented) A medium according to Claim 39, wherein the step to select the first sub-group of consumers includes a step to select the first sub-group of consumers based on attribute levels identified as unacceptable by each of the constituent members of the first sub-group of consumers.

43. (Previously presented) A medium according to Claim 42, wherein the constituent members of the first sub-group of consumers identified similar attribute levels as unacceptable.

44. (Previously presented) A medium according to Claim 39, the step to select the first sub-group of consumers includes a step to select the first sub-group of consumers based on part worth values associated with each of the constituent members of the first sub-group of consumers.

45. (Previously presented) A medium according to Claim 44, wherein the constituent members of the first sub-group of consumers are associated with similar preference information.

46. (Canceled)

47. (Previously presented) A medium according to Claim 46, wherein the step to divide the plurality of consumers into sub-groups includes a step to assign consumers to sub-groups based on attribute levels that the consumers indicated as unacceptable.

48. (Previously presented) A medium according to Claim 46, wherein the step to divide the plurality of consumers into sub-groups includes a step to assign consumers to sub-groups based on part worth values associated with the consumers.

49-50. (Canceled)

51. (Original) A medium according to Claim 39, the process steps further comprising: a step to determine an offer to sell a product based on the mixed preference information.

52. (Original) A medium according to Claim 51, the process steps further comprising: a step to provide the offer to the consumer.

53. (Previously presented) A medium according to Claim 39, wherein the first sub-group of consumers is identical to the second sub-group of consumers.

54. (Previously presented) A medium according to Claim 39, wherein the first sub-group of consumers does not include any consumers belonging to the second sub-group of consumers.

55. (Previously presented) A medium according to Claim 39, wherein one or more of the constituent members of the first sub-group of consumers belong to the second sub-group of consumers.

56. (Canceled)

57. (Original) A medium according to Claim 39, wherein the plurality of consumers comprises a predetermined number of past consumers for whom preference information is stored.

58. (Previously presented) A medium according to Claim 57, wherein the predetermined number of past consumers are determined based on a time at which preference information associated with each of the predetermined number of consumers was collected.

59. (Original) A medium according to Claim 39, wherein the plurality of consumers comprises all past consumers for whom preference information was collected during a particular time period.

60. (Previously presented) A medium storing processor-executable process steps, the process steps comprising:

a step to store, for a plurality of consumers, preference information related to different attributes of a type of product, the stored preference information for an individual consumer including numerical values that are reflective of the individual consumer's preference for

different attribute levels for the attributes of the type of product, and the plurality of consumers including a particular consumer and other consumers;

dividing the plurality of consumers into multiple different sub-groups that include less than all of the plurality of consumers;

based on the preference information stored for the particular consumer, generating a set of trade-off questions for the particular consumer that solicit answers from the particular consumer regarding choices between different attribute levels for attributes of the type of product;

a step to provide the set of trade-off questions to the particular consumer;

a step to predict the particular consumer's answers to the set of trade-off questions;

a step to receive answers to the set of trade-off questions from the particular consumer;

a step to select, from among the multiple sub-groups of consumers, a particular sub-group of consumers as a match for the particular consumer, the selection of the particular sub-group of consumers being based on preference information for the particular user and preference information for constituent members of the particular sub-group of consumers;

a step to calculate, for at least one attribute level of a particular attribute of the type of product, an average value of the particular sub-group's preference for the at least one attribute level based on the stored values that are reflective of the particular sub-group's constituent members' preferences for the at least one attribute level;

based on the particular consumer's received answers to the set of trade-off questions and the predicted answers to the set of trade-off questions for the particular consumer, determining an adjustment factor for use in adjusting the stored value that is reflective of the particular consumer's preference for the at least one attribute level; and

adjusting the stored value that is reflective of the particular consumer's preference for the at least one attribute level as a function of the determined adjustment factor and the average value of the particular sub-group's preference for the at least one attribute level.

65. (Previously presented) A medium according to Claim 60, wherein the step to select the particular sub-group of consumers includes a step of selecting the particular sub-group of consumers based on attribute levels indicated as unacceptable by each constituent member of the particular sub-group of consumers.

66. (Previously presented) A medium according to Claim 65, wherein the constituent members of the particular sub-group of consumers identified similar attribute levels as unacceptable.

67. (Previously presented) A medium according to Claim 60, wherein the step to select the particular sub-group of consumers includes a step of selecting the particular sub-group of consumers based on part worth values associated with each of the constituent members of the particular sub-group of consumers.

68. (Previously presented) A medium according to Claim 67, wherein the constituent members of the particular sub-group of consumers are associated with similar part worth values.

69. (Previously presented) A medium storing processor-executable process steps to produce consumer preference information, the process steps comprising:

- a step to receive, for a plurality of consumers, preference information related to different attributes of a product, the received preference information for an indication consumer including numerical values that are reflective of the individual consumer's preference for different attribute levels for the attributes of the type of product, and the plurality of consumers including a particular consumer and other consumers;

- a step to currency-normalize the received preference information for the plurality of consumers;

- a step to store the currency-normalized preference information for the plurality of consumers;

- a step to divide the plurality of consumers into multiple different sub-groups that include less than all of the plurality of consumers;

a step to generate, based on the currency-normalized preference information stored for the particular consumer, a set of trade-off questions for the particular consumer that solicit answers from the particular consumer regarding choices between different attribute levels for attributes of the type of product;

a step to provide the set of trade-off questions to the particular consumer;

a step to predict the particular consumer's answers to the set of trade-off questions;

a step to receive answers to the set of trade-off questions from the particular consumer;

a step to select, from among the multiple sub-groups of consumers, a particular sub-group of consumers as a match for the particular consumer, the selection of the particular sub-group of consumers being based on currency-normalized preference information for the particular user and currency-normalized preference information for constituent members of the particular sub-group of consumers;

a step to calculate, for at least one attribute level of a particular attribute of the type of product, an average value of the particular sub-group's currency-normalized preference for the at least one attribute level based on the stored currency-normalized values that are reflective of the particular sub-group's constituent members' currency-normalized preferences for the at least one attribute level;

a step to determine, based on the particular consumer's received answers to the set of trade-off questions and the predicted answers to the set of trade-off questions for the particular consumer, an adjustment factor for use in adjusting the currency-normalized stored value that is reflective of the particular consumer's currency-normalized preference for the at least one attribute level; and

a step to adjust the stored currency-normalized value that is reflective of the particular consumer's currency-normalized preference for the at least one attribute level as a function of the determined adjustment factor and the currency-normalized value of the particular sub-group's currency-normalized preference for the at least one attribute level.

70. (Original) A medium according to Claim 69, the process steps further comprising:
a step to provide an offer based on the currency-normalized information.

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71. (Original) A medium according to Claim 70, the process steps further comprising:
a step to provide the offer to the consumer.

72-77. (Canceled)

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